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AUTHOR Bracco, Kathy Reeves; Callan, Patrick M.

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ABSTRACT

This paper focuses on collaboration and cooperation as aspects of higher education in California, considering the three public systems and the independent sector. The context is the 40-year experience of growth and change in these 4 segments of higher education since the enactment of California's 1960 Master Plan for Higher Education. The first section of this report describes the Master Plan and how it limited competition in California. The second section examines two Master Plan provisions written to encourage collaboration: student transfers across segments and joint doctorates. The third section describes additional types of collaboration, including voluntary associations at the state and regional levels, joint facilities, and the California Virtual University. The fourth section discusses the past and future of enrollment growth and fiscal constraints on collaboration. The final section explores the requirements of California higher education for collaboration in the future as the state faces greater and more diverse student demand and problematic state fiscal support. An appendix contains a table of associate and baccalaureate degree production for 1992, 1996, and 1999. (Contains 81 references.) (SLD)



Competition and Collaboration in California Higher Education

By Kathy Reeves Bracco and Patrick M. Callan

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Kathy Reeves Bracco is a senior consultant to the National Center for Public Policy and Higher Education.

Patrick M. Callan is president of the National Center for Public Policy and Higher Education.

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Introduction

hroughout the nation, competition and collaboration among colleges and **1** universities occur in many forms. Among institutions, the most visible, if least educationally meaningful competition—across states and within them is played out on the athletic fields. Somewhat more relevant to the educational enterprise, the rankings of institutions in U.S. News and World Report, and of graduate education and research, receive modest attention from the media and the public, as well as mixed criticism and acclaim by the higher education establishment. In contrast to the relatively high visibility of these competitive dimensions of higher education, collaboration and cooperation go largely unnoticed. In this paper, we emphasize the latter aspects of higher education in one state, California. Specifically, we focus attention on the four "segmental" components of that state's system—that is, on the three public systems and the independent sector—not on the individual campuses that comprise these segments. Because almost ninety percent of the state's higher education enrollments are in public institutions, we look most closely at the public sector.

Our context for examining collaboration and cooperation in California is the 40-year experience of growth and change in these four segments since the enactment of California's 1960 Master Plan for Higher Education (see Table 1). Over the 40 years since the Master Plan was enacted, enrollments have grown from 484,000 to over 2.2 million. Three times more students are enrolled in the community colleges today than were enrolled in all higher education in California in 1960.

Table 1

| California Higher Education Campuses | | | |
|--------------------------------------|------|------|--|
| Segment | 1958 | 2000 | |
| University of California | 7 | 10 | |
| California State University | 13 | 23 | |
| California Community Colleges | 63 | 107 | |
| Independent Institutions | 71 | 171* | |

[•] There are 171 private non-profit institutions in the state, 71 of which are members of the Association of Independent California Colleges and Universities (AICCU). There are, in addition, 87 two- and four-year private for-profit institutions (Chronicle of Higher Education 2000, 58).

Sources: Master Plan Survey Team, 1960; Individual segments.



¹ Unless otherwise noted, references to the "Master Plan" are to the committee report of the Master Plan Survey Team, 1960.

At least in the abstract, limiting competition among the segments seems like a condition that would favor greater collaboration among them, yet this has not been the result.

For the past four decades, California public higher education has been controlled by the Master Plan. This plan severely limited competition within the state and among the segments, by differentiating missions and admissions standards. This has enabled the state to avoid the proliferation of campuses that has plagued many other states and has enabled the institutions to avoid the turf battles common to many other states. Meanwhile, the segments have grown while maintaining access and excellence.

At least in the abstract, limiting competition among the segments seems like a condition that would favor greater collaboration among them, yet this has not been the result. Although the Master Plan provided strong means for limiting competition among the higher education segments in California, it has encouraged collaboration by much less rigorous means. As a result, collaboration, while not deliberately discouraged by state policy, has not flourished.

California and many other states now face a future in which, we believe, collaboration within higher education is likely to be much more critical to meeting state needs than in the past. The longevity of the Master Plan and the extent to which it has been studied offer an opportunity to examine in depth the nature of competition and collaboration within higher education. California and other large states may derive insights from this examination, as they prepare for what we perceive to be a challenging future in meeting state priorities for higher education.

The first section below describes the Master Plan and how it limited competition in California. The second section examines two Master Plan provisions written to encourage collaboration: student transfers across segments (a fundamental element of access and opportunity) and joint doctorates. The third section describes additional types of collaboration, including voluntary associations at the state and regional levels, joint facilities, and the California Virtual University. The fourth section discusses the past and future of enrollment growth and fiscal constraints on collaboration. In the fifth and final section, we observe how California requires—and will require—much greater collaboration in the future than is now in place, if the state's higher education is to meet the converging challenges of greater and more diverse student demand, and problematic state fiscal support.



Section I

The California Master Plan: Reducing Competition

ur argument is that the structure of California's state higher education system influences the system's capacity for competition and collaboration, as well as the likelihood that competition and collaboration occur among its institutions.² We have argued this elsewhere in greater detail (Richardson et al. 1999; Bracco et al. 1999). We are particularly interested in the two traditional policy goals of broad college opportunity and excellence in instruction and research, goals that we assume to be common to all states (National Center for Public Policy and Higher Education 2000). Indeed, Neil J. Smelser has argued that the values of "competitive excellence" and "populist egalitarianism" have worked to legitimize higher education structures in California, noting these to be the state's cultural version of "the more general American values of achievement and equality of opportunity" (Smelser and Almond 1974, 15). The California Master Plan sought to institutionalize these values. Egalitarian values were served by broadening access to higher education to every high school graduate in the state—primarily through community colleges—and by assuring eligible students of baccalaureate opportunities through transfer. Competitive excellence was addressed by highly selective freshman admissions to public baccalaureate-granting institutions, and by monopolies within public higher education on doctoral and advanced professional education, and on state-supported research.

As the California Master Plan institutionalized values of "populist egalitarianism" and "competitive excellence," it also limited competition within higher education in the state, through the following structural provisions:

² In the national context, we classify California as a "segmented" system. The characteristics of segmentation are that "… institutional or subsystem boards define and manage the work processes with little attention to the activities of other sectors or segments. Government agencies are often involved directly with governing boards, and the legislature provides most of the coordination between institutions or subsystems." Work processes are budgeting, program allocation, and articulation. Other segmented state systems include Michigan, Florida and New York. California is the only

California and many other states now face a future in which, we believe, collaboration within higher education is likely to be much more critical.



3

segmented system organized around institutional mission and defined admissions

pools (Richardson et al. 1999, 174-176; Pickens 1999).

- 1. *Differentiation of Function*. The three public segments were assigned differentiated functions or missions within which to strive for excellence:
 - The University of California (UC), under the jurisdiction of its Board of Regents, was to have particular emphasis on graduate and professional education, with exclusive jurisdiction in the public sector over instruction in law, and over graduate instruction in medicine, dentistry, and veterinary medicine. It would also have sole authority to award doctoral degrees.
 - The state colleges—now the California State University (CSU)—were removed from the jurisdiction of the State Board of Education, and a separate governing board of trustees was established. The colleges' primary functions were to be undergraduate instruction and graduate instruction through the master's degree. Doctoral degrees could be offered in collaboration with the University of California, a provision later broadened to include joint degrees with private colleges and universities. Faculty research was authorized if consistent with the primary function of instruction.
 - Junior colleges—now the California Community Colleges—were defined for the first time as part of higher education, and were authorized to offer instruction up to the 14th grade (including courses for transfer to four-year institutions, vocational and technical instruction, and general or liberal arts courses). In 1968, these colleges, retaining their separate district governing boards, were grouped under a statewide segmental coordinating board.
- 2. Differential Student Eligibility Standards. Differentiated admissions pools were established for the university and the state university. The university was to select students from the top 12.5% of high school graduates, and the state university from the top one-third. Those not eligible for admission to either as freshmen—two thirds of high school graduates—would be eligible to transfer upon completing two years of community college.

These provisions of the Master Plan explicitly and structurally precluded competition among the segments by differentiating their respective purposes and admissions pools. They incorporate most features of the textbook model of the conventional and expert perspective on statewide planning for higher



education as it was envisioned in the 1950 to 1975 era: clear mission differentiation, and plans for increasing capacity based upon these missions and demographic projections. In fact, California carried the "differentiation of function" principle further than any other state, by explicitly defining student eligibility for each segment of public higher education, and by organizing governance of public higher education into three systems based on homogeneous missions and admissions pools.

Yet the Master Plan did not conform to conventional expertise in its provisions for coordination in higher education (Glenny 1959; McConnell 1962). Whereas the Master Plan provided strong structural means for limiting competition, its provisions for coordination were relatively weak from the outset and have remained weak. The main body responsible for implementing coordination—the Coordinating Council for Higher Education (CCHE)—was established as an *advisory* state agency. Although stronger than the *voluntary* coordination that it replaced, it did not have the authority of a *regulatory* agency; for example, it had the power to review proposed new academic programs, but not the power to deny approval. Changes subsequent to its establishment—such as substituting lay appointees for segmental representatives in 1974, broadening its advisory functions, and changing the name to California Postsecondary Education Commission (CPEC)—did not strengthen the agency.

Through these provisions for limiting competition and encouraging collaboration, the Master Plan created three statewide silos in California higher education. By largely *structural* means, the Master Plan designated where institutions could not compete (mission, location of campuses, and eligible pools of students). By largely *procedural* means, it designated where cooperation should or could occur (as we will explore in greater detail later, through transfer and joint doctorates). Yet the creation of a relatively weak coordinating agency to monitor these rules meant that the segmental silos were effectively isolated from one another.

Clark Kerr, president of the University of California at the time of the Master Plan's formulation, was its principal architect. According to Kerr, the participants in the planning process were engaged in "negotiating a treaty among the constituent parts of higher education in California." They wanted a "structure for planning" rather than a plan itself, and the Master Plan was really designed so as not to require much competition or cooperation, but rather so that each segment could "focus on its own mission" (Kerr 1992; 2001a; 2001c, pp. 172–190). Over the past 40 years, each segment has focused, we suggest, on

Whereas the Master Plan provided strong structural means for limiting competition, its provisions for coordination were relatively weak from the outset and have remained weak.



its "own mission," each with separate organizational concerns, for there has been little competition within the state—aside from that inherent in the state budgetary arena. Nor has there been much collaboration.

More than 40 years after the enactment of the Master Plan, the shape of California higher education—its governing and coordinating structures and functions—remains essentially what was contemplated when the legislators and governor approved it. Two major, formal changes—a new community college coordinating board in 1968, and a revised statewide coordinating agency in 1974—have had little impact. The durability of the Master Plan and the success of its implementation are attributable, we believe, to the shared values of California citizens and of the political and higher education leaders who created it.³ Long-standing general consensus has supported the policy goals of broad access and a meritocratic view of excellence, as well as supporting the means to achieve these goals: the institutional structures and relationships embodied in the Master Plan.

As a result, the Master Plan remains the central framework for California higher education. It has been reviewed several times by blue ribbon commissions and legislative committees, and all have recommended that the fundamental elements of the Master Plan be continued. Yet overall, the "iron grip of 'segmental thinking'" institutionalized by the Master Plan has had mixed results in California. To a remarkable extent, it has afforded order, clarity, and efficiency to public higher education (Pickens 1999, 147). But it has not been as successful in stimulating collaboration. As we argue in the following pages, economic and demographic factors—current and prospective—require that far greater attention be paid to collaboration and cooperation than has been in the past.



³ See two sets of surveys conducted by the Public Agenda organization, one California-specific (Immerwahr 1995, 1997, 2000a) and one on the national context (Immerwahr 1999, 2000b).

Section II

Master Plan Provisions for Collaboration: Student Transfer and the Joint Doctorate

Two areas of collaboration are clearly provided for by the Master Plan: transfer, and joint doctorates.

STUDENT TRANSFER

Student transfer from two-year community colleges to four-year public institutions is a core component of the California Master Plan. The promise of transfer—the accessibility of the baccalaureate degree to students who enroll in the community colleges—is what makes selective freshman admissions to the university and the state university compatible with the state's egalitarian civic culture. The importance of transfer and the seriousness with which it was taken by the framers of the Master Plan is reflected in its provision that the university and state university must maintain a ratio of 60% upper-division to 40% lower-division students. This provision would ensure that most students in pursuit of the baccalaureate degree obtain a lower-division education in one segment (community colleges) and then transfer for their upper-division courses to one of the four-year segments.

How effective is the transfer function in California higher education?

• Although California has improved its record in terms of associate degrees produced per high school graduate during the decade of the 1990s, it declined from about the mid-point (23rd) among the states in terms of baccalaureate degrees conferred per high school graduate in 1992 to the bottom third (35th) in 1999. California's heavy reliance upon the community colleges for lower-division instruction does not, in itself, explain the state's relatively low baccalaureate degree productivity. Thirteen states with at least one-third of their enrollment in two-year colleges are above the U.S. average in terms of baccalaureate degree production in 1999 (National Center for Higher Education Management Systems 2001).4

How effective is the transfer function in California higher education?



⁴The measure used here is the ratio of baccalaureate degrees conferred to the number of high school graduates six years earlier. (For associate degrees, the measure is the ratio of associate degrees conferred to the number of high school

- The absolute number of community college students transferring to the university and state university declined in 1997 and 1998—from 41,167 in fall 1996 to 37,103 in fall 1998, a drop of 11% in two years. The number of community college students transferring increased to 39,143 in fall 1999 but remained 5% below the 1997 level (California Postsecondary Education Commission 2000c). This volatility has been characteristic of California, rather than the exception. In a major 1990 report, the Organisation for Economic Co-operation and Development (OECD) found "alternating increases and decreases in the number of community college transfers to the university and state university in the period since 1960" (OECD 1990).
- A relatively small number of the community colleges account for the bulk of transfer students. In 1999–2000, approximately 65% of transfers to the state university came from 39 of the 107 community colleges; 64% of community college transfers to the university came from 23 of the colleges (CPEC 2000c). Many colleges produce very few transfer students. Students' opportunities to transfer are uneven, depending on the community college they attend. At most of California's community colleges, the students' likelihood of transfer—and therefore of attaining a bachelor's degree—is low.

These data reveal that California higher education appears to be underperforming in the system's key process for coordinating between segmental functions, and significantly, in an area crucial to higher education opportunity. The reasons for this underperformance are the subject of ongoing debate. Problems frequently cited for blame include: deficiencies in curricula and instruction offered by some community colleges; poor counseling, articulation or financial aid policies; some community colleges' lack of proximity to four-year campuses; and deficiencies of public schooling.

In planning for the future, the imminent, almost unprecedented enrollment demand—"Tidal Wave II" discussed in a later section—along with the high



graduates four years earlier). This ratio is an indicator of the relative effectiveness of states, whatever their institutional configuration (public, private, two-year, four-year), in providing opportunities for high school graduates to earn the bachelor's degree. The tables in the Appendix use this indicator to compare and rank the states in 1992, 1996 and 1999. See also National Center for Public Policy and Higher Education (2000) for data on the percentage of students in two-year colleges in each state.

concentration of Hispanic, black and low-income students in the community colleges, have made California's political and higher education leaders aware of the vital need for effective transfer procedures that will help accommodate the projected growth. California's commitment to effective transfer has been renewed, and several initiatives are currently under way to address it:

- To improve transfer, the state community college chancellor's office initiated a series of memoranda of understanding (MOU) with the university (1997), the state university (2000) and the independent colleges and universities (2000). These MOUs set specific goals and expectations for transfer. Key components of the MOUs between the community colleges and the university and state university are agreements to increase the number of students transferring to the four-year institutions.
- The specific goals set in the MOUs (a modest increase of five percent per year) were reiterated (and in the case of the university, modestly increased) in "partnership" budget agreements established between the governor and the four-year public segments. In these separately negotiated compacts, the four-year segments agreed to "accept all eligible high school graduates who wish to attend" in exchange for a guaranteed four percent annual funding increase. As part of these compacts with the governor, both segments agreed to increase the number of community college transfers: CSU agreed to increase the number of annual transfers by five percent per year, to a total of 63,000 in 2005-06 (from 44,989 in 1998-99); and UC agreed to increase the number of transfer students by six percent annually, to 15,300 in 2005–06 (up from 10,150 in 1998–99). The university also agreed to increase the number of student transfers from low-transfer community colleges by 15% annually (State of California, Governor's Office 1999a, 1999b; CPEC 2001a).
- In their separate partnerships, the university and the state university also agreed with the governor to "expand course transferability" and "reduce barriers to students transferring." Both partnerships call for the development and maintenance of systemwide agreements between these four-year segments and the community colleges concerning lower-division course requirements for 20 "high demand" majors. The university agreed to ensure that each of their general campuses has transfer agreements with "100% of community colleges within their respective service areas." The state university agreed to increase—at the



- rate of five each year—the number of majors across its campuses that have common lower-division course requirements (State of California, Governor's Office 1999a, 1999b).
- Currently, two regular paths lead high school graduates to eligibility for admission to the university: standing in the top 12.5% of high school graduates statewide or standing in the top 4% of their graduating class. In an effort to increase the number of transfers to the university, the UC president has proposed a dual admissions plan that would be a "third path" to eligibility: students who are within the top 12.5% of their high school class would be simultaneously admitted to both a university campus and a community college. They would attend a community college for their first two years, and upon completion of specified transfer requirements, would then transfer to a university campus (UC Office of the President 2001c). Such dual admissions would enable a cohort of students to start together in the community colleges, while identified as university students. They would have access, it is proposed, to university counseling and financial aid information, as well as to the courses necessary for transfer. This program was recently approved by the UC Regents.5
- Dual admissions programs occur between the state university and the
 community colleges on a campus-by-campus basis. Efforts to institute a
 dual enrollment program—where students are not just admitted to two
 institutions but actually enroll at both at the same time—were
 frustrated by uncertainty about which segment would receive state
 funding for dually enrolled students. Collaborative efforts are clearly
 difficult to initiate when they may mean a loss of funding based on
 enrollments.

These transfer initiatives are evidence that the state and segments are aware of the articulation problems, and are attempting to improve current procedures and remove existing barriers.



⁵ After this paper was written, the legislature failed to appropriate the \$2.5 million in additional funding requested by the university for implementation of the dual admissions program, and the program was deferred by the university until it could "obtain the necessary funding" (Atkinson 2001d).

THE JOINT DOCTORATE

To date, the provisions for joint doctoral degrees explicit in the California Master Plan have engendered more controversy than collaboration. The joint doctorate was a compromise between the university's insistence upon retaining the exclusive right in public higher education to offer the doctorate, and the perennial aspirations of the state university to offer it. This provision, an eleventh-hour compromise crafted by then-UC President Clark Kerr, effected the final consensus within higher education that made the Master Plan possible. The initial assumption was that most of the joint doctorates would be in the field of education (Douglass 2000). For the university, the joint doctorate was a concession justified by the need to reach closure on an agreement that protected its vital interests. For the state university and many of its faculty, the compromise opened new possibilities.

How has the joint doctorate fared over the past forty years? Not very well.

- In 1965, five years after the Master Plan was adopted, the two San Diego campuses of the university and the state university established the first joint doctoral program, in the field of chemistry.
- Since then, 16 additional programs have been authorized, although only 14
 are active, five of which are in the field of education. Only four of the 22
 state university campuses participate in the joint doctorate, and San Diego
 State University offers 11 of the 14 active CSU programs (CPEC 1998).
- Enrollments in the joint doctoral programs have increased over the years—from 274 students enrolled in 10 programs in the fall of 1990, to 451 students enrolled in 14 programs in 1997—but still represent less than one percent of the state university's graduate enrollment in that year. In 1997, enrollments in the joint doctoral programs ranged from only three in the engineering sciences program between San Diego State and UC San Diego, to 111 in the education program between San Diego State University and the Claremont Graduate School (CPEC 1998).
- From 1990 to 2000, 40 joint doctorates were awarded, less than one percent of the total number of doctorates awarded in the state (CSU 2000b).

In March of 2001, the state university made the authority to offer a doctoral degree in education (Ed.D.) a part of its legislative agenda. Their representatives argued that there was an unmet need for individuals with an Ed.D. in both K–12 and the community colleges, and that the state university had the capacity to meet that need. Joint degrees were not a feasible solution, it was

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argued, because "the University of California faculty has little interest in producing such degrees in meaningful quantities" (CSU 2001c, 31). The state university supported its proposal by noting the Ed.D. was the only doctoral degree for which it was seeking authority, and that "a practitioner focused doctoral degree does not compete with or duplicate the research focus of UC's doctoral programs" (CSU 2001c, 35).

The university responded to this proposal in a letter from President Richard C. Atkinson to CSU Chancellor Charles B. Reed, expressing the university's intent to pursue an "expeditious development and approval of joint programs," as well as its concern that the CSU proposal meant a "significant change in the Master Plan" (Atkinson 2001c).

The state university's proposal for a doctoral program in education has not only encountered resistance from the university, but from the state's private segment as well. The private institutions cite recent findings by California's coordinating agency that the supply of education doctorates offered in California meets the demand for these degrees (CPEC 2000a). In 1999–2000, private institutions issued 85% of the Ed.D.s awarded in the state and 69% of all doctorates in education, including Ph.D.s (CPEC 2000a, 215). The independent sector enjoys a near monopoly on Ed.D.s, one observer suggests, because the Master Plan created an "artificial restraint of trade"—the university has not been interested in the Ed.D., and the state university is prohibited from offering it.

The joint doctorate experience in California exemplifies the difficulties of collaboration between the state's two four-year segments. The politics of this issue seem to pit the state university against both the university and the state's private colleges and universities, in precisely the kind of competition that the Master Plan and the provision for joint doctorates sought to preclude.



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Section III

Additional Areas of Collaboration

Tot all areas of collaboration are as closely identified with the Master Plan as student opportunities to transfer among segments and the joint doctorate. The additional experiences of collaboration discussed here include the Education Roundtable—a voluntary, state-level organization for collaboration—and other selected examples of collaborative activity.

THE EDUCATION ROUNDTABLE

The "unofficial" vehicle for coordination in the state is the California Education Roundtable (Roundtable), a voluntary body whose members include the state superintendent of public instruction, the president of the university, the chancellors of the state university and the community colleges, the president of the Association of Independent California Colleges and Universities, and the executive director of CPEC. The Roundtable was first organized in 1979 by the president of the university to address outreach and teacher preparation issues. The operational arm of the Roundtable is the Intersegmental Coordinating Committee (ICC), which is composed of staff, faculty, and student representatives from all sectors of education. "The ICC has responsibility for fostering collaboration within California's educational community at all levels through conducting activities and supporting strategies that link the public schools, community colleges, and baccalaureate-granting colleges and universities" (California Education Roundtable 2001).

The most visible accomplishment of the Roundtable with regard to intersegmental cooperation has been the development of recommended standards for high school graduation in English and mathematics. Two faculty task forces, drawn from K–12 and segmental faculty in the two disciplines, were appointed by the Roundtable in 1996. The proposed standards were endorsed by the Roundtable in 1997. "The Roundtable members are convinced that a statewide consensus on content standards is necessary to improve instruction and student performance. Clear content standards will represent benchmarks for teachers, parents, students, and the public" (Roundtable 2001). The extent to which these Roundtable standards influenced the statewide standards ultimately adopted by the California State Board of Education varies depending on the observer, but it is clear that this move was a highly visible exercise in a critical, controversial area of national concern (Maeroff, Callan and Usdan 2001). It has, we believe, set the tone for current, promising Roundtable initiatives.

The most visible accomplishment of the Roundtable with regard to intersegmental cooperation has been the development of recommended standards for high school graduation in English and mathematics.



Perhaps the most promising current Roundtable effort is to develop new statewide tests for high school students that would correlate to college admissions and placement. First discussed at a Roundtable meeting in January 2001, efforts are being expedited (using the ICC as a convener) to develop actual test design proposals, as opposed to just a study and report. We agree with those who see this as a very significant effort, as well as an excellent example of effective collaboration between higher education and the public schools. It does not diminish this effort's significance to note that it responds to external pressures—public and political—for greater accountability.

Roundtable efforts are often inhibited by the Master Plan's emphasis on segmental independence. Earlier this year, UC President Richard Atkinson made an important proposal asking UC faculty to eliminate the use of the SAT I examination as part of their admissions standards. He put forth the argument: the university needs an assessment instrument that correlates admissions criteria to high school coursework better than the SAT I. His proposal is now under consideration in a committee of the statewide academic senate. It has also stimulated discussion within the Roundtable because of its implications for ongoing state test development.

This university proposal offers a perspective on collaboration, or the apparent lack of it. Because each segment is responsible for its own admissions requirements, this initiative to eliminate the SAT I could be and was announced without prior discussion with the state university, the Roundtable or the coordinating agency. For better or worse, such a unilateral approach is more characteristic of California than are the collaborative activities sponsored by the Roundtable. It was apparently assumed, perhaps correctly, that the state university would follow the university's lead in admission matters, as it has often done in the past—for example, in the specification of required high school courses.⁶

This instance also illustrates why most people who are not part of the higher education leadership—as well as many who are—view the potential of the Roundtable as limited (Richardson et al. 1999), even as "largely symbolic." A Roundtable member told us that it provides an "outstanding opportunity for these folks to have a discussion about where they might collaborate," but "it is a long way from these discussions to implementation that means anything." An implicit purpose of the Roundtable, we suggest, is to assure the governor and the



⁶ Michael Kirst argues that higher education needs to send consistent and clear signals to high school students about academic preparation (2000, 2001).

legislature that attention is being given to collaboration. The Roundtable does ratify important initiatives on which unanimity can be reached, but only a limited number of important issues can be addressed with unanimity in California.

THE VIRTUAL UNIVERSITY

The California Virtual University (CVU) is a recent example of a collaborative activity involving the four higher education segments. In 1997, then-California Governor Pete Wilson moved to establish the CVU, which was not intended to be a degree-offering institution, but rather an online catalog of courses offered by California's colleges and universities, public and private. Although it would initially be supported by state funding, it would continue with funding from the state's burgeoning technology industry, and eventually become self-sufficient. However, the start-up funding for the project never amounted to what Governor Wilson had anticipated (see Irving 1999).

Despite the less-than-enthusiastic response from funding sources, the Governor's Office forged ahead with the CVU, establishing a task force with delegates from each of the four segments to implement it. By the end of 1998, the task force had prepared an on-line catalog with over 2,500 courses from over 100 campuses. At that point, the governor terminated state support for the CVU, arguing that further support should come from the campuses and business sponsors. That support was not forthcoming, however, and the CVU closed its "virtual" doors on March 31, 1999.

The management of this initiative by Governor Wilson certainly left much to be desired. Still, what could have become a statewide collaborative effort, among institutions from all four sectors of higher education, ended almost as soon as the external support and pressure—both financial and political—disappeared. When the governor's support was withdrawn, the institutions simply said that they would not support the CVU. Institutional behavior was not affected by the demise of the CVU: institutions continued to offer their own courses on-line. The only difference was that those courses would have been part of a statewide catalog.

Would the virtual university have been a significant example of collaboration? It was instituted under political pressure and with added state funding. When the pressure and funding stopped, the venture was abandoned by the segments. In any case, whatever the merits of the initial proposal, it has apparently not led to other statewide forms of technologically based collaboration.



JOINT FACILITIES

An increased interest in joint use of facilities is a relatively new example of collaboration among the public segments. Joint facilities operations are currently in place at several of the state university campuses. The state university faculty offer courses at community college campuses, particularly in impacted programs, that is, popular programs where student demand cannot be accommodated on the state university campus. Students can earn their baccalaureate degrees without leaving the community college campus.

In 2001, for the first time, the three public segments are seeking a \$200 million set-aside in the capital outlay bond measure for joint facilities projects. Although the request represents only a small portion of the \$4.8 billion bond proposal, it is symbolically significant in that it departs slightly from the historic $\frac{1}{2} - \frac{1}{2} - \frac{1}{2}$ division of capital outlay bond dollars. The state legislature and the electorate must approve this measure if it is to pass. If the \$4.8 billion in the current proposal is reduced by the legislature, as is likely, the commitment to joint facilities will be tested because the segments would have to agree to reduce their "shares" to protect the collaborative initiatives.

REGIONAL COLLABORATION

We are unaware of any recent assessment of regional collaboration in California, but the general belief is that the best examples of "real" collaboration are at the regional rather than the state level. One such example is in the south, in San Diego, and one is in the north, in Sacramento.

In San Diego County, the presidents and chancellors of all local higher education institutions have frequent meetings to discuss local education issues. San Diego offers examples of collaboration, such as joint facilities and dual admissions. In the latter program, a number of students are admitted both to a local community college and to one of the two local state university campuses, located in San Marcos and San Diego. Also, the UC San Diego campus is



⁷The governor and legislature did not act on the education capital outlay bond measure in the 2001 legislative session. The legislature is expected to adopt the bond measure by May 2002, for placement on the November 2002 ballot. While the parameters of the higher education request remain the same at the time of publication of this report, the dollar amounts could certainly be reduced before this measure is placed on the ballot, particularly in light of the current downturn in the state's economy.

leading a "university links" program, in which UCSD, local community colleges and the public schools are forming partnerships to identify and assist underrepresented students with their college aspirations.

In the Sacramento area, both the university campus in Davis—a short commute from Sacramento—and the state university campus in Sacramento proper have had a long-standing commitment to the transfer process.

Moreover, it is generally believed that transfer may work better in this region than in other parts of the state. Collaboration on both transfer and K–12 outreach in the area is effected through "colleagues in conversation," an informal but well-established forum where leaders of K–12, community colleges and the four-year institutions gather to discuss pertinent issues. The executive staff of the two four-year campuses hold periodic joint staff meetings to keep abreast of what is happening on each campus.

The effectiveness of regional collaboration depends primarily upon the styles, interests and personal compatibility of an area's campus leaders, as well as on the proximity of their campuses. Because of the lack of any policy emphasis in the Master Plan, or any formal or informal models, regional collaborations depend upon the viability of partnerships between individuals. Location and a sense of local identity are also important, including a region's specific configuration. For example, in the Sacramento area, with only one university and one state university campus, participants are said to be "easier to corral" than in other areas of the state.



Section IV

Tidal Wave II: Enrollment Growth and Fiscal Constraint

The two most pressing issues facing California higher education now are the projected increase in student enrollment and a problematic state economy. Either alone would have significant implications for collaborative activity; their convergence presents an almost unprecedented challenge to state and higher education leaders.

"TIDAL WAVE II"

The Master Plan promised higher education opportunity to all motivated and qualified Californians, but this promise will be difficult to keep given the probable future, when a "tidal wave" of potential students is expected. As noted earlier, this expectation of enrollment growth is in large part responsible for new state and segmental interest in transfers. The most recent (February 2000) enrollment projections of the coordinating agency estimate that more than 700,000 additional students will seek enrollment in California higher education by the year 2010—and these on top of the 2.2 million enrolled today. According to this projection, approximately 529,000 (or 76%) of these new students will enroll in the community colleges, many expecting to transfer to a four-year campus after completing two years (CPEC 2000b).

Current projections estimate that each of the public segments will experience substantial growth: 36% for the community colleges, 37% at the state university, and 32% at the university (CPEC 2000b). Many of these new students will come from populations that have been traditionally underrepresented in higher education and may require special, often costly, attention at the campuses. If, as we hope, efforts to attract them are successful, then the added expenses will compound the already serious problems of accommodation. Accommodating 700,000 additional students is a formidable task, even in the best of economic times, and now the economic outlook is problematic as well. A need for collaboration to help meet high enrollment growth may be compounded by state fiscal constraints.

The two most pressing issues facing California higher education now are the projected increase in student enrollment and a problematic state economy.



FISCAL CONSTRAINTS

Every state economy has its ups and downs that impose relatively short-term fiscal constraint on funding for higher education. In the abstract, the best time for institutions to collaborate is in times of fiscal crisis. When state funding for higher education levels off or is reduced in a fiscal crisis—as in most states it almost always is—public institutions of higher education are expected to "do more with less" or at least to provide the same services with stable or diminished state funding. Collaborative sharing of resources could make state monies go further. Reality, however, is different. In this section, we emphasize California's experience with short-term fiscal constraints, but note also that in a longer-term perspective, the intersection of enrollment growth with projected state revenues poses problems for many states.

In the early 1990s, California suffered an unexpected recession. The state did recover and enjoyed an unprecedented economic boom for the rest of that decade. Yet that recession was longer and more severe than any California had seen since the Great Depression. For higher education, the state's fiscal crisis at that time meant that state general fund appropriations for higher education dropped for three consecutive years, from 1992 to 1994.

The state's response to the recession was to shift its revenue shortfalls to state programs, including the institutions of higher education. The responses of the segments and their campuses focused on self-preservation, not collaboration. The Master Plan prohibition of tuition—a charge for instructional costs—had already been eroded by the increasing number and cost of student fees for other services, but finally, because of the recession, it was quietly abandoned, after 30 years. California reduced the number of students enrolled in public higher education by about 200,000 students, or 10% (Breneman 1995a, 1995b; Martinez and Nodine, 1997). In 1997, a group of higher education and state political leaders met to analyze that response. Robert Zemsky, head of one of the sponsoring organizations, summarized the conclusions of the group:

Both within themselves and in their relation to one another, the three sectors of the state's public higher education system are functioning largely as before. . . There was not a drawing together in search of ways to pool downsized public appropriations to determine how the state's higher education systems could best serve the needs of the state and its citizens despite their newly limited resources. Instead, each sector and its institutions responded primarily in ways that

The responses of the segments and their campuses focused on selfpreservation, not collaboration.



preserved its own values and purposes—even at the expense of its external constituencies. (California Higher Education Policy Center 1997)

In 2001, California appears to face another round of fiscal difficulty, one brought on by high energy prices, an ailing technology industry, and a foundering national economy. And this round coincides with the onset of the tidal wave of additional students. The governor's recent response to reduced state revenues was to decrease the incremental funding set out in the partnerships with the university and the state university, the partnerships that included the commitments of state government and the public universities to improving transfer. These reductions halved partnership funding from four to two percent, reducing the university's budget increase by an estimated \$89.8 million, and the state university's augmentation by an estimated \$70.2 million (California State Department of Finance 2001b). The response of the segments to these reductions is as yet unclear.

These conditions make clear that for the long term, collaboration among the four higher education segments will be essential. In every state, to our knowledge, funding for higher education is largely discretionary—that is, the share of state expenditures to higher education is subject to "crowding out" by mandatory entitlements and formula funding of other state services, such as Medicaid, corrections, public safety, and elementary and secondary education (Callan and Finney 1999, 8–9, 35).

The longer term implications of this competition between higher education and other state services was probed in a report by the late Harold Hovey in 1999. His report examines higher education's fiscal prospects by projecting both state revenues and state expenditures for eight years for all 50 states. Hovey concluded that increases in state revenues would not be sufficient to fund current levels of state services. He viewed the "crowding out" factor—higher education's discretionary budgetary status—as more than simply a statutory, bookkeeping phenomenon. Rather, he attributed higher education's financial position to the widely held political perception that, unlike other state agencies, higher education has great flexibility through separate budgets and reserves, through salary and programmatic controls, and of course, through the ability to maintain and even increase spending by shifting costs to students and families via tuition.

Short-term fiscal constraints, such as that of the early 1990s, are no longer simply isolated storms that briefly disrupt an otherwise smooth voyage. Rather

These conditions make clear that for the long term, collaboration among the four higher education segments will be essential.



they are warnings of a likely future of more difficult and chronic fiscal difficulties—of prolonged bad weather. Higher education leaders should start now to build collaborative arrangements that will help them weather the harsher climate to come.



Section V

Closing Observations

of the areas of collaboration examined here, the transfer function is the most critical. It is the glue that holds the California Master Plan together, the key to maintaining higher education opportunity. The egalitarian aspects of California higher education—the open door, second chances, public credibility, and political viability—depend on effective transfer. More important, effective transfer will be crucial in educating the next generations of Californians who are now moving in unprecedented numbers through the elementary and secondary schools. Greater in number and increasingly ethnically diverse, these generations will reflect the demographic shifts that have characterized not only California, but also other Western and Southwestern states. Both the Master Plan's differentiation of admissions pools and the physical capacities of the segments dictate that most of these students will begin their college careers in a community college.

During the decade leading to the onset of the "tidal wave" of new students, California has underperformed in student achievement of baccalaureate degrees, a crucial indicator of educational attainment and opportunity. Over the past 20 years, a number of reviews of higher education in the state, both internal and external, have called attention to this problem. In fact, the state's decline in baccalaureate degree activity in the 1990s came in the wake of a series of policy reviews and legislated community college "reform" initiatives in the late 1980s (Commission for the Review of the Master Plan 1987; Joint Committee for the Review 1989; OECD 1990). Among the public policy experts and higher education leaders we interviewed, none took the position that California's record in transfers and baccalaureate production is adequate, either for the present or the future. It is widely acknowledged that the purpose of the California Master Plan was to increase opportunity, and that its heavy reliance on transfer was intended to broaden, not constrain, access to the baccalaureate degree.

Although there is renewed commitment to transfer in the state, initiatives will have to produce major improvements in relatively short order—more quickly than has been the case over most of the past four decades. The environment may be difficult for such a transformation:

 The projected numbers of high school graduates are sufficiently large that California institutions need not fear enrollment decline and consequent loss of financial resources. Therefore it is unlikely that many four-year

During the decade leading to the onset of the "tidal wave" of new students, California has underperformed in student achievement of baccalaureate degrees.



- institutions will need to increase transfers dramatically to maintain or to increase enrollment. And university faculties are likely to prefer to recruit academically qualified high school graduates as freshmen, over the more difficult and complex process of articulation with and transfer from the community colleges.
- The financial agreements between the state and the university and the state university—agreements that required strengthening of transfer—may be unraveling because of California's deteriorating economy. We do not doubt the commitment of the current leaders of public higher education to strengthening transfer, even if the state should renege on its partnership agreements. But we do not believe it can be assumed that the transfer initiatives will be sustained in the long term if the university and the state university come under intense fiscal pressure. Recent history is not encouraging in this regard. And while the partnerships with the state and the incentives for improvement of transfer are to be applauded, they may imply to some that such improvements are contingent on additional funding, an "add-on" rather than a core function of California's public universities.

This essay has described a number of collaborative initiatives besides transfer. We do not know if California would have been better served by more joint doctorates or by the virtual university. Nor do we know whether the college preparation of California high school graduates would be better served by a more unified higher education voice on issues related to admissions testing, nor what the future of joint facilities may be. We believe, however, that the experiences we have discussed indicate that collaboration is not one of the strengths of California higher education, and that underperformance in the crucial area of transfer is only the most significant such example. The strengths of the California system are found primarily in what institutions can do unilaterally, and what they are willing to do under favorable financial circumstances. Yet what is predictable about the demographic and economic future suggests that the pressure to come may be greatest upon the areas of collaboration where the track record and capacity seem weakest.

Collaboration seldom comes easily to institutions of higher education, and this suggests caution in attributing weak collaboration to the structural characteristics of a particular state. But in the area of transfer, quantitative comparisons can be made, and California's underperformance stands out. California has organized higher education on the principle of "each train on its own track," or each segment in its own "silo." The size and scale of the system



requires time-consuming consensus building across campuses and among academic senates within each segment, before most collaborative activities—particularly those involving curriculum, admissions and academic programs—can be implemented between and among segments. The character and priorities of each public institution in California are defined primarily by the statewide segment to which it belongs, rather than by the region or community where it is located. This has led to the result that statewide efforts at coordination—whether by the state agency nominally responsible for coordination, or by voluntary association—appear to have had, at best, only marginal influence on the operations of higher education or on service to students.

By any real-world standard, the system or systems of higher education that California crafted in the 1960 Master Plan comprised a bold blueprint for the last four decades of the twentieth century. During those years, the conventional wisdom within and outside of California has been that with good leadership, good will and adequate financing, any problem or issue could be accommodated by that structure. That conventional wisdom has often been justified. We believe, however, that it will be severely tested in the decade ahead. Most significantly, no challenge will be as critical to the state's future and as demanding of the structure, governance and leadership of its higher education as that of enhancing the effectiveness of transfer. Transfer is the most fundamental test of collaboration.

If the current initiatives of the state and the segments of higher education fail to improve transfer or to produce significantly greater accessibility to, and productivity of, baccalaureate degrees, pressure on the organizational arrangements designed in 1960 will mount. California may eventually be forced to consider alternative organizational and governance structures more conducive to collaboration (perhaps moving to regional organization), options that in the past state and education leaders have been reluctant even to consider.



Appendix



| | | te Degree Production, 1992 Bachelor's Degree Production | |
|-----------------------------|--|--|--|
| Associate Degree Production | | | |
| State # 6 | of Associate Degrees (1992) per High School Graduate (1988) | | elor's Degrees (1992) pe School Graduate (1986) |
| Florida* | 0.431 | Rhode Island | 0.867 |
| Alabama* | 0.389 | Vermont* | 0.654 |
| Rhode Island | 0.388 | Utah | 0.604 |
| Wyoming* | 0.327 | North Dakota | 0.603 |
| Washington | 0.324 | Massachusetts* | 0.603 |
| Arizona* | 0.310 | New Hampshire* | 0.590 |
| New York | 0.286 | Colorado* | 0.573 |
| ldaho | 0.266 | Delaware | 0.557 |
| Kansas | 0.248 | Arizona* | 0.508 |
| lowa* | 0.247 | New York* | 0.508 |
| Colorado* | 0.239 | Kansas | 0.504 |
| Minnesota | 0.237 | Missouri* | 0.494 |
| Utah | 0.233 | Oregon | 0.492 |
| CALIFORNIA | | South Dakota | 0.490 |
| Michigan* | 0.218 | Nebraska | 0.477 |
| New Hampshir | | Indiana | 0.475 |
| Massachusetts | | lowa* | 0.465 |
| Illinois | 0.217 | Alabama* | 0.461 |
| UNITED STA | | Virginia* | 0.460 |
| Nebraska | 0.203 | Florida* | 0.459 |
| | 0.203 | North Carolina* | 0.449 |
| Hawaii | 0.193 | Pennsylvania | 0.448 |
| Vermont* | 0.193 | CALIFORNIA | 0.442 |
| Oklahoma | | Minnesota | 0.441 |
| South Dakota | 0.189 0.186 | | 0.437 |
| North Dakota | | Maryland | 0.429 |
| Mississippi* | 0.185 | Wisconsin | 0.429 |
| Pennsylvania | 0.182 | UNITED STATES | 0.421 |
| New Mexico | 0.181 | Washington | 0.413 |
| Missouri* | 0.181 | Oklahoma* | |
| Maine | 0.178 | Montana* | 0.411 |
| North Carolina | | South Carolina | 0.410 |
| Georgia* | 0.170 | Illinois | 0.404 |
| Oregon | 0.169 | Tennessee* | 0.398 |
| Ohio | 0.167 | Maine | 0.392 |
| South Carolina | | Michigan* | 0.384 |
| Virginia* | 0.163 | Connecticut | 0.383 |
| Wisconsin | 0.163 | Ohio | 0.382 |
| Kentucky | 0.162 | Texas* | 0.381 |
| Maryland | 0.162 | Georgia* | 0.379 |
| Connecticut | 0.159 | Louisiana | 0.370 |
| Arkansas · | 0.158 | West Virginia | 0.363 |
| Texas* | 0.156 | Mississippi* | 0.354 |
| Nevada | 0.155 | New Mexico | 0.339 |
| Indiana | 0.152 | Kentucky | • 0.335 |
| Delaware | 0.149 | Hawaii | 0.335 |
| Tennessee* | 0.146 | Wyoming* | 0.318 |
| New Jersey* | 0.141 | Nevada | 0.312 |
| Montana* ´ | 0.141 | Arkansas | 0.301 |
| Alaska* | 0.136 | Idaho | 0.288 |
| West Virginia | 0.133 | New Jersey* | 0.253 |
| Louisiana | 0.093 | Alaska* | 0.200 |

^{*} Private High School Graduates for these states are estimated using available data from more recent years.



Source: National Center for Higher Education Management Systems NCES IPEDS Completion Data Set 1991–92. High School Graduates 1986 and 1988, WICHE.

| ASS | ociate and Baccalaurea | te Degree Production | n, 1996 |
|-----------------------------|---|------------------------------|---|
| Associate Degree Production | | Bachelor's Degree Production | |
| State # of Ass High | ociate Degrees (1996) per School Graduate (1992) | | elor's Degrees (1996) pe chool Graduate (1990) |
| Alabama | 0.462 | Rhode Island | 0.937 |
| Washington | 0.445 | Utah | 0.687 |
| Rhode Island | 0.436 | Vermont | 0.686 |
| Florida | 0.424 | Massachusetts | 0.658 |
| ldaho · | 0.353 | New Hampshire | 0.633 |
| New York | 0.345 | Delaware | 0.627 |
| Wyoming | 0.344 | Colorado | 0.606 |
| Minnesota | 0.299 | New York | 0.567 |
| Kansas | 0.297 | North Dakota | 0.549 |
| lowa | 0.291 | Kansas | 0.546 |
| Colorado | 0.282 | South Dakota | 0.534 |
| Utah | 0.276 | Oregon | 0.524 |
| North Dakota | 0.271 | lowa* | 0.518 |
| New Hampshire | 0.269 | Arizona | 0.511 |
| South Dakota | 0.262 | Nebraska | 0.507 |
| Vermont | 0.261 | Missouri* | 0.495 |
| Arizona | 0.259 | Virginia | 0.491 |
| CALIFORNIA | 0.257 | North Carolina | 0.490 |
| UNITED STATES | 0.237 | Washington | 0.476 |
| Mississippi | 0.235 | Pennsylvania | 0.476 |
| Illinois | 0.233 | Indiana | 0.474 |
| Michigan | 0.228 | Florida | 0.473 |
| North Carolina | 0.222 | Montana | 0.471 |
| Hawaii | 0.222 | Wisconsin | 0.470 |
| New Mexico | 0.218 | UNITED STATES | 0.452 |
| Oregon | 0.216 | Minnesota | 0.446 |
| Missouri | 0.215 | Georgia | 0.441 |
| Massachusetts | 0.210 | Alabama | 0.440 |
| Pennsylvania | 0.208 | Maryland | 0.434 · |
| Kentucky | 0.204 | Hawaii | 0.429 |
| Oklahoma | 0.197 | Michigan* | 0.428 |
| Maryland | 0.195 | Illinois | 0.417 |
| Virginia | 0.187 | CALIFORNIA | 0.414 |
| Georgia | 0.187 | Tennessee | 0.413 |
| Wisconsin | 0.185 | Louisiana | 0.411 |
| Nevada | 0.183 | South Carolina | 0.405 |
| South Carolina | 0.180 | Connecticut | 0.398 |
| Delaware | 0.179 | Oklahoma | 0.393 |
| Indiana | 0.178 | Texas | 0.390 |
| Ohio | 0.177 | New Mexico | 0.389 |
| Nebraska | 0.175 | Ohio | 0.383 |
| New Jersey | 0.171 | West Virginia | 0.382 |
| Alaska | 0.170 | Maine | 0.378 |
| Maine | 0.165 | Idaho | 0.366 |
| Texas | 0.161 | Nevada | 0.360 |
| Connecticut | 0.161 | Mississippi | 0.358 |
| Montana | 0.159 | Kentucky | 0.355 |
| Tennessee | 0.159 | Arkansas | 0.334 |
| West Virginia | 0.140 | New Jersey | 0.286 |
| Louisiana | 0.130 | Wyoming | 0.280 |
| Arkansas | 0.114 | Alaska* | 0.272 |

^{*} Private High School Graduates for these states are estimated using available data from more recent years.

Source: National Center for Higher Education Management Systems NCES IPEDS Completion Data Set 1995–96. High School Graduates 1990 and 1992, WICHE.



| | Associate and Baccalaurea | te Degree Production | on, 1999 |
|-----------------------------|--|------------------------------|---|
| Associate Degree Production | | Bachelor's Degree Production | |
| State # | of Associate Degrees (1999) per High School Graduate (1995) | | helor's Degrees (1999) pe School Graduate (1993) |
| Florida | 0.440 | Rhode Island | 0.945 |
| Rhode Island | 0.395 | Vermont | 0.779 |
| Washington | 0.369 | Utah | 0.673 |
| ldaho | 0.369 | Delaware | 0.656 |
| Wyoming | 0.343 | Massachusetts | 0.651 |
| New York | 0.333 | Colorado | 0.647 |
| Arizona | 0.314 | New Hampshire | 0.622 |
| CALIFORN | A 0.265 | North Dakota | 0.616 |
| Hawaii | 0.251 | New York | 0.591 |
| Utah | 0.247 | Oklahoma | 0.569 |
| New Hampsh | re 0.244 | Missouri | 0.559 |
| Kansas | 0.242 | Arizona | 0.559 |
| Mississippi | 0.241 | lowa | 0.556 |
| Iowa | 0.237 | Kansas | 0.541 |
| Vermont | 0.235 | North Carolina | 0.540 |
| Michigan | 0.231 | Pennsylvania | 0.525 |
| Colorado | 0.227 | Nebraska | 0.520 |
| North Dakota | | Oregon | 0.496 |
| New Mexico | 0.221 | Wisconsin | 0.495 |
| UNITED ST | | South Dakota | 0.493 |
| Illinois | 0.216 | Alabama | 0.491 |
| North Carolin | | Virginia | 0.489 |
| | 0.198 | Washington | 0.483 |
| Oregon | 0.189 | Maryland | 0.479 |
| Missouri | | Michigan | 0.475 |
| South Dakota | | UNITED STATES | |
| Alabama | 0.189 | | 0.461 |
| Oklahoma | 0.188 | Tennessee | |
| South Carolin | | South Carolina | 0.456 |
| Pennsylvania | 0.187 | Montana | 0.456 |
| Nebraska | 0.185 | Illinois | 0.453 |
| Virginia | 0.185 | Louisiana | 0.448 |
| Massachuset | | Connecticut . | 0.446 |
| Minnesota | 0.179 | Texas | 0.438 |
| Nevada | 0.176 | Nevada | .0.425 |
| Alaska | 0.167 | Georgia | 0.423 |
| Wisconsin | 0.160 | CALIFORNIA. | 0.420 |
| Ohio | 0.160 | Ohio | 0.419 |
| Maine | 0.157 | Hawaii | 0.414 |
| Georgia | 0.155 | New Mexico | 0.405 |
| Texas | 0.155 | Mississippi | 0.401 |
| New Jersey | 0.154 | Minnesota | 0.399 |
| Maryland | 0.154 | West Virginia | 0.395 |
| Delaware | 0.154 | Kentucky | 0.392 |
| Tennessee | 0.151 | Maine | 0.387 |
| Kentucky | 0.151 | Indiana | 0.369 |
| Connecticut | 0.147 | Arkansas | 0.349 |
| Indiana | 0.141 | Idaho | 0.346 |
| West Virginia | | New Jersey | 0.308 |
| Arkansas | 0.128 | Wyoming | 0.301 |
| Montana | 0.126 | Alaska | 0.239 |
| Louisiana | 0.124 | Florida | 0.152 |

Source: National Center for Higher Education Management Systems NCES IPEDS Completion Data Set 1998–99. High School Graduates 1993 and 1995, WICHE.



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Universities

Penny Edgert Coordinator

Intersegmental Coordinating Committee

Neal Finkelstein

Research Coordinator, Outreach Evaluation University of California Office of the President

Warren Fox
Executive Director

California Postsecondary Education Commission

Augustine Gallego

Chancellor

San Diego Community College District

Donald Gerth President

California State University, Sacramento

Gerald Hayward Former Chancellor

California Community Colleges

Director

Policy Analysis for California Education

Dennis Jones President

National Center for Higher Education

Management Systems

Clark Kerr

President Emeritus University of California

Judson King

Provost and Senior Vice President

University of California

Michael Kirst

Professor

 $School\ of\ Education$

Stanford University

Thomas Nussbaum

Chancellor

California Community Colleges

William Pickens President/CEO

Foundation for Educational Achievement

Charles Reed Chancellor

California State University

Virginia Smith

President Emerita

Vassar College

David Spence

Executive Vice Chancellor California State University

Larry Vanderhoef

Chancellor

University of California, Davis

Jane Wellman

Senior Associate

Institute for Higher Education Policy



References

| Atkinson, Richard C. 2001a. Correspondence to The Honorable Dede Alpert. March 29. |
|---|
| . 2001b. Correspondence to The Honorable Dede Alpert. February 7. |
| . 2001c. Correspondence to Chancellor Charles B. Reed. February 7. |
| . 2001d. Correspondence to The Regents of the University of California. |
| September 18. |
| Board of Governors, California Community Colleges. 2000. Presentation on Signing of a |
| Memorandum of Understanding between the California Community Colleges and the |
| California State University. May 8–9. |
| . 2001. Partnership for Excellence: Assessment of System Performance. Sacramento: |
| California Community Colleges. http://www.ccco.edu/cccco/bog/mayord/o2- |
| mou.txt. |
| Bracco, Kathy Reeves, Richard C. Richardson, Patrick M. Callan, and Joni E. Finney. 1999. |
| "Policy Environments and System Design: Understanding State Governance |
| Structures." The Review of Higher Education (fall): 23 (1). |
| Brainard, Jeffrey. 2001. "Elitism, Excellence, or both at the National Academy of Sciences?" |
| The Chronicle of Higher Education. May 11. |
| http://chronicle.com/weekly/v46/i35/35a02401.htm. |
| Breneman, David, 1995a. A State of Emergency? California's Crisis in Higher Education. San |
| Jose: California Higher Education Policy Center, February. |
| 1995b. "Pulling the Rug on Students." Los Angeles Times. February 8. |
| Burdman, Pamela. 2000. "After Affirmative Action." National CrossTalk (winter): 8 (1). |
| California Community Colleges, Chancellor's Office. 1997. Enhancing Student Transfer. A |
| Memorandum of Understanding Between the California Community Colleges and |
| the University of California. http://www.cccco.edu/cccco/gen/mou.htm . |
| . 1999. Partnership for Excellence Report Specifications. http://www.cccoe.org . |
| California Education Roundtable. 2001. California Education Roundtable/Intersegmental |
| Coordinating Committee. http://www.sccoe.org/icc/ . |
| California Higher Education Policy Center. 1997. "A Promise Worth Keeping." Supplement |
| published in CrossTalk (May). http://www.policycenter.org/ct_0597/cts_0597.html . |
| California Postsecondary Education Commission (CPEC). 1998. From Compromise to |
| Promise: A Status Report on the Joint Doctorate in California. Sacramento: California |
| Postsecondary Education Commission. |
| 2000a. The Production and Utilization of Education Doctorates for Administrators in |
| California's Public Schools. Sacramento: CPEC. |
| 2000b. Providing for Progress: California Higher Education Enrollment Demand and |
| Resources into the 21st Century. Sacramento: CPEC. |
| 2000c. Student Profiles 2000. Sacramento: CPEC. |
| . 2001a. New Community College Transfer Students at California Public Universities. |
| Sacramento: CPEC. |
| . 2001b. Total Enrollment by Institution by Region. Sacramento: CPEC. |
| http://www.cpec.ca.gov/OnlineData/GenReport.ASB. |



California State Department of Finance. 2000a. "Higher Education." Governor's Budget Summary 2000-01. http://www.dof.ca.gov/HTML/BUDGT00-01/HigherEd-T.htm. . 2000b. "Higher Education." State Budget Highlights 2000–01. Sacramento: State Department of Finance. 29-35. . 2001a. California Historical Population Estimates. Sacramento: Department of Finance Demographic Research Unit. http://www.dof.ca.gov/HTML/DEMOGRAP/e-7.xls. . 2001b. "Higher Education." Governor's Budget Summary 2001-02. May Revise. http://www.dof.ca.gov/HTML/Budget01-02/Hied-N.htm. . 2001c. E-1 City/County Population Estimates with Annual Percentage Change. January 1, 2000 and 2001. Sacramento: California State Department of Finance, Demographic Research Unit. http://www.dof.ca.gov/HTML/DEMOGRAP/e-1table.xls. California State University. 1999. "CSU and UC to Align Preparatory Course Requirements." Press Release. March 25. http://www.calstate.edu/PA/oldnews/1999/alignment.shtml. . 2000a. "Governor, CSU and UC Agree on Partnership to Provide Stable Funding, Investment in Priorities and Accountability." Press Release. May 23. . 2000b. Statistical Abstract to July 1999. Long Beach, CA: California State University, Chancellor's Office. http://www.co.calstate.edu/ASD. . 2001a. California Academic Partnership Program. http://www.calstate.edu/tier3/capp. _. 2001b. The Intersegmental Committee of the Academic Senates. http://www.calstate.edu/tier3/acadesen/committees/icas/history.htm. . 2001c. Meeting California's Need for the Education Doctorate: A Report Examining California's Needs for More Holders—and Suppliers—of Education Doctorates. Long Beach, CA: California State University, Chancellor's Office. Callan, Patrick M. 1992. "California's Master Plan for Higher Education: Some Second Thoughts for the Fourth Decade." In Rothblatt, Sheldon (ed.). The OECD, The Master Plan and the California Dream. Berkeley, CA: Center for Studies in Higher Education. _. 1998. "Five Years in Retrospect: The California Higher Education Policy Center, 1992 to 1997." The California Higher Education Policy Center: An Assessment. San Francisco: The James Irvine Foundation. 19-66. Callan, Patrick M., and Joni E. Finney (eds.). 1999. Public and Private Financing of Higher Education: Shaping Public Policy for the Future. Phoenix, AZ: American Council on Education/Oryx Press. 8-9, 35. Chance, William, 1997. A Vision in Progress. The Decision to Establish a Public University at Monterey Bay. San Jose, CA: The California Higher Education Policy Center. Chronicle of Higher Education, Almanac Issue. 2000. 1 September: XLVII (1). Commission for the Review of the Master Plan for Higher Education. 1987. The Master Plan Renewed; Unity, Quality, Equity and Efficiency in California Postsecondary Education. Sacramento: The Commission. Davies, Gordon K. 1997. "Higher Education Systems as Cartels: The End is Near." The Chronicle of Higher Education. 3 September. A68. Douglass, John Aubrey. 2000. The California Idea and American Higher Education 1850 to the



1960 Master Plan. Stanford, CA: Stanford University Press. Flannery, Colleen. 2001. "Cal Grants Grow." Education Beat. April 27. 2–3.

- Glenny, Lyman A. 1959. Autonomy of Public Colleges: The Challenges of Coordination. New York: McGraw-Hill.
- Hovey, Harold A. 1999. State Spending for Higher Education in the Next Decade: The Battle to Sustain Current Support. San Jose, CA: The National Center for Public Policy and Higher Education.
- Immerwahr, John. 1995. *Preserving the Higher Education Legacy: A Conversation with California Leaders*. San Jose, CA: The California Higher Education Policy Center.
- _____. 1997. Enduring Values, Changing Concerns: What Californians Expect from Their Higher Education System. San Jose, CA: The California Higher Education Policy Center.
- _____. 1999. Taking Responsibility: Leaders' Expectations of Higher Education. San Jose, CA:
 The National Center for Public Policy and Higher Education.
- 2000a. *Great Expectations: How Californians View Higher Education*. San Jose, CA: The National Center for Public Policy and Higher Education.
- _____. 2000b. Great Expectations: How the Public and Parents—White, African American, and Hispanic—View Higher Education. San Jose, CA: The National Center for Public Policy and Higher Education.
- Irving, Carl. 1999. "California Virtual University." National CrossTalk (summer): 7 (3).
- Joint Committee to Develop a Master Plan for Education, Kindergarten through University. 2000. *Articulation and Student Transfer*. Sacramento: Joint Committee.
- Joint Committee for the Review of the Master Plan for Higher Education. 1989. *California Faces...California's Future: Education for Citizenship in a Multicultural Democracy.*Sacramento: California Legislature.
- Kerr, Clark. 1992. "The California Master Plan of 1960 for Higher Education: An Ex Ante View." In Rothblatt, Sheldon (ed). *The OECD, The Master Plan and the California Dream*. Berkeley, CA: Center for Studies in Higher Education.
- _____. 1994. *Preserving the Master Plan*. San Jose, CA: The California Higher Education Policy Center.
- _____. 1999. Written Testimony of Dr. Clark Kerr to the Joint Committee to Develop a Master Plan for Education Kindergarten through University. August 24.
- _____. 2001a. Interview February 18.
- . 2001b. Letter to The Honorable Dede Alpert. April 4.
- 2001c. *The Gold and the Blue*. Vol. 1, *Academic Triumphs*. Berkeley: University of California Press.
- Kirst, Michael. 2000. "The Senior Slump: Making the Most of High School Preparation." National CrossTalk (fall): 8 (4).
- ______. 2001. Overcoming the High School Senior Slump: New Education Policies. San Jose, CA: The National Center for Public Policy and Higher Education and the Institute for Educational Leadership.
- Legislative Analyst's Office. 2001. *Analysis of the 2001–02 Budget Bill*. http://www.lao.ca.gov/analysis_2001/education/.
- Maeroff, Gene I., Patrick M. Callan, and Michael D. Usdan. 2001. *The Learning Connection:* New Partnerships Between Schools and Colleges. New York: Teachers College Press.
- Martinez, Mario and Thad Nodine. 1997. "California: Financing Higher Education Amid Policy Drift." In Patrick Callan and Joni Finney (eds.). Public and Private Financing of Higher Education. Phoenix, AZ: American Council on Education/Oryx Press.



- Master Plan Survey Team. 1960. A Master Plan for Higher Education in California, 1960–1975. Sacramento: California State Department of Education.
- McConnell, Thomas R. 1962. A General Pattern for American Public Higher Education. San Francisco: McGraw-Hill.
- National Center for Higher Education Management Systems (NCHEMS). 2001. "Baccalaureate and Associate Degree Production by State." Graphics presented to the California Postsecondary Education Commission. April.
- National Center for Public Policy and Higher Education. 2000. Measuring Up 2000: The State-by-State Report Card for Higher Education. San Jose, CA.
- Nussbaum, Tom. 1997. "The Partnership for Excellence." Memo to Board of Governors. December 31. http://www.ccco.edu/ccco/consult/ptex0198.html.
- Organization for Educational Co-operation and Development (OECD). 1990. Reviews of National Policies for Education: Higher Education in California. Paris.
- Pickens, William H. 1999. "The California Experience: The Segmented Approach." In Gaither, Gerald (ed.). The Multicampus System: Perspectives on Practice and Prospects. Sterling, VA: Stylus. 145–161.
- Richardson, Richard C., Kathy Reeves Bracco, Patrick M. Callan, and Joni E. Finney. 1999. Designing State Higher Education Systems for a New Century. Phoenix, AZ: Oryx Press.
- Smelser, Neal J. and Gabriel Almond (eds). 1974. *Public Higher Education In California*. Berkeley: University of California Press.
- State of California, Governor's Office. 1999a. Four-Year Partnership with the California State University (1999–00 through 2002–03). Sacramento: Governor's Office.
- _____. 1999b. Four-Year Partnership with the University of California (1999–00 through 2002–03). Sacramento: Governor's Office.
- Trombley, William. 2000. "California's Improved Financial Aid Program." *National CrossTalk* (fall): 8 (4). 1; 8–9.
- University of California, Office of the President. 2000a. "Accountability is Key Element of New Higher Education Partnership with Governor Davis." Press Release. May 29.
- _____. 2000b. "Governor's Budget Gives Major Boost to UC." Press Release. January 10.
- _____. 2001a. *California Subject Matter Projects*. Oakland, CA: UC Office of the President. http://csmp.ucop.edu/csmp.
- _____. 2001b. CSU/UC Collaborations in Doctoral Training. Oakland, CA: UC Office of the President. http://www.ucop.edu/acadinit/uccsu/collaborations.htm.
- _____. 2001c. *Questions and Answers about the Proposed "Dual Admissions" Plan*. Oakland, CA: UC Office of the President.
 - http://www.ucop.edu/ucophome/pres/comments/dualq&a.html.
- _____. 2001d. Status Report on UC Admissions and Outreach. Oakland, CA: UC Office of the President.
- Venezia, Andrea. 2000. "Connecting California's K–12 and Higher Education Systems: Challenges and Opportunities." In *Crucial Issues in California Education* 2000. Berkeley, CA: Policy Analysis for California Education. 153–176.





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A State-by-State Report Card on Higher Education: Prospectus (March 2000, #00-1). Summarizes the goals of the National Center's report card project.

Great Expectations: How the Public and Parents—White, African American and Hispanic—View Higher Education, by John Immerwahr with Tony Foleno (May 2000, #00-2). This report by Public Agenda finds that Americans overwhelmingly see higher education as essential for success. Survey results are also available for the following states:

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State Spending for Higher Education in the Next Decade: The Battle to Sustain Current Support, by Harold A. Hovey (July 1999, #99-3). This fiscal forecast of state and local spending patterns finds that the vast majority of states will face significant fiscal deficits over the next eight years, which will in turn lead to increased scrutiny of higher education in almost all states, and to curtailed spending for public higher education in many states.

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Higher Education Governance: Balancing Institutional and Market Influences, by Richard C. Richardson, Jr., Kathy Reeves Bracco, Patrick M. Callan, and Joni E. Finney (November 1998, #98-7). Describes the structural relationships that affect institutional effectiveness in higher education, and argues that state policy should strive for a balance between institutional and market forces.

Federal Tuition Tax Credits and State Higher Education Policy: A Guide for State Policy Makers, by Kristin D. Conklin (December 1998, #98-6). Examines the implications of the federal income tax provisions for students and their families, and makes recommendations for state higher education policy.

The Challenges Facing California Higher Education: A Memorandum to the Next Governor of California, by David W. Breneman (September 1998, #98-5). Argues that California should develop a new Master Plan for Higher Education.

Tidal Wave II Revisited: A Review of Earlier Enrollment Projections for California Higher Education, by Gerald C. Hayward, David W. Breneman and Leobardo F. Estrada (September 1998, #98-4). Finds that earlier forecasts of a surge in higher education enrollments were accurate.

Organizing for Learning: The View from the Governor's Office, by James B. Hunt Jr., chair of the National Center for Public Policy and Higher Education, and former governor of North Carolina (June 1998, #98-3). An address to the American Association for Higher Education concerning opportunity in higher education.

The Price of Admission: The Growing Importance of Higher Education, by John Immerwahr (Spring 1998, #98-2). A national survey of Americans' views on higher education, conducted and reported by Public Agenda.

Concept Paper: A National Center to Address Higher Education Policy, by Patrick M. Callan (March 1998, #98-1). Describes the purposes of the National Center for Public Policy and Higher Education.

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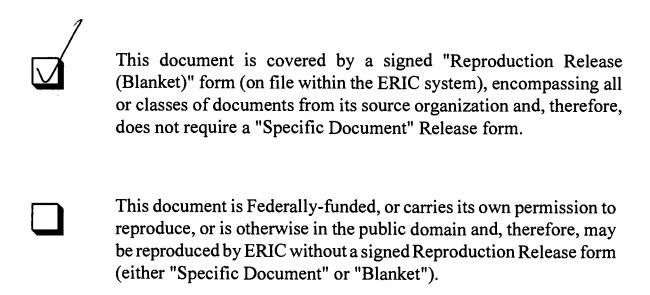
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